

Remarks

Claims 60-92 are pending. Claim 60 is allowed. Claims 61, 62 and 64-92 are rejected. Objections have been made to Claims 62 and 63. Claims 61-69, 73, 75, 78, 80-86, 88, 89 and 91 are currently amended. Claims 79 and 87 are cancelled. Support for the amendments to the claims can be found at, for example, paragraphs [0061] and [0062] of the filed application as well as the original claims. A Supplemental Information Disclosure Statement, along with Form PTO-1449 and the publication listed therein is also provided.

At the outset, the Applicants wish to thank the Examiner for the allowance of Claim 60. Additionally, the Applicants wish to thank the Examiner for rejoining Claims 63-65 and 67-92.

Claims 67-68 are rejected as non-enabled under 35 USC §112, first paragraph. The rejection states that these claims are broadly drawn to a method of treating “any form of cancer.” The rejection then concludes that “undue experimentation would be required by one of ordinary skill in the art to practice the claimed methods.”

Amended Claims 67-68 are enabled under 35 USC §112, first paragraph. Claim 67 has been amended to recite “a method of treating cancers expressing an $\alpha v\beta 3$ integrin[.]” Claim 68 has been amended to recite a “method of treating cancers expressing an $\alpha v\beta 3$ integrin[.]” The amendments to Claims 67 and 68 significantly limit the scope of cancers that may be treated in the claimed methods. Additionally, Example 1 at paragraph [0061] teaches that the grafted homodetic cyclopeptides accumulate strongly in the hyper-vascular regions of tumors based on medical imaging of tumors known to express integrin $\alpha v\beta 3$ after intravenous injection of cyclopeptides into mice carrying such tumors. Example 1 at paragraph [0062] and Fig. 7 also teach that the radiolabeled, grafted homodetic cyclopeptides can be detected at tumors expressing $\alpha v\beta 3$ integrins. Importantly, the Applicants note that subsequent studies have clearly shown that grafted homodetic cyclopeptides preferentially associate with tumors expressing $\alpha v\beta 3$ integrins *in vivo* and can inhibit the growth of, or kill, such cells. Importantly, it is well known in the art that $\alpha v\beta 3$ integrins are required for angiogenesis and are necessary for the neovascularization of cancer tumors as well as the growth of such tumors. Together this means, based on the disclosure in the application, that one of ordinary skill in the art would be able to use the claimed grafted homodetic cyclopeptides in methods of treating cancers expressing $\alpha v\beta 3$ integrins. Furthermore, the Applicants note that numerous publications subsequent to the application support this conclusion and tend to show that no undue

experimentation would be required by one of ordinary skill in the art to practice the claimed methods. *See* the attached five (5) additional publications. The Applicants respectfully request withdrawal of the rejections of Claims 67 and 68 under 35 USC §112, first paragraph.

Objections were made to Claims 62 and 63. Claim 62 has been amended to recite “a precursor thereof.” Claim 63 has been amended to recite “epitopic.” These amendments to Claims 62 and 63 are in accordance with the Examiner’s helpful guidance. The Applicants respectfully request withdrawal of the objections to Claims 62 and 63.

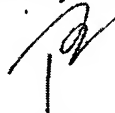
Claims 61, 62 and 64-92 have been rejected under 35 USC §112, second paragraph, as indefinite. The rejection states that Claims 61 and 62 are indefinite because these claims recite “on the other of its faces.” The rejection states that Claim 62 is indefinite because it recites “radioemitter type.” The rejection states that Claim 65 is indefinite because it recites “carbohydrate type.” The rejection states Claim 64 is indefinite because the phrase “recognition molecules” lacks proper antecedent basis. The rejection states that Claim 65 is indefinite because it is unclear whether the claim is drawn to a compound or a mixture comprising the compound and a “immunoadjuvant.” The rejection states Claim 66 is indefinite because it appears to be drawn to a composition but only recites a single pure compound. The rejection states Claim 68 is indefinite because it is unclear to whom, or what, a therapeutically effective amount of the composition is being administered. The rejection states Claim 69 is indefinite because the phrase “cylcopeptide framework” lacks proper antecedent basis. The rejection also states Claim 69 is indefinite because it appears to be missing a process step and the identity of the “molecule of interest” is unclear. The rejection states that Claim 79 is indefinite because “the oxyamine function” and “the aldehyde function” lack proper antecedent basis. The rejection states Claim 81 is indefinite because it recites “the amine and hydroxyl functions ... oxidation of which releases an aldehyde group.” Last, the rejection states that Claim 87 is indefinite because the phrase “molecules of interest” lacks proper antecedent basis.

Claims 61, 62, 64-78, 80-86 and 88-92 are definite under 35 USC §112, second paragraph. Claims 79 and 87 have been cancelled and the rejection with regard to these claims is now moot. Claim 61 has been amended such that it no longer recites “on the other of its faces.” Claim 62 has been amended so that it no longer recites “on the other of its faces.” Claim 65 has been amended such that it now recites “carbohydrates” instead of “carbohydrate type.” Claim 64 has been amended to recite “recognition molecule.” Claim 65 has been amended to clarify that the claim is drawn to a

peptide “grafted on one face with an immunoadjuvant and B-dependent epitopes comprising carbohydrates, or T-dependent epitopes.” Claim 68 has been amended to clarify that the host is “a human patient in need[.]” Claim 69 has been amended to recite “producing a cyclopeptide framework” and to recite the step of “grafting at least one molecule of therapeutic diagnostic interest on one face of the cyclopeptide, and at least one recognition molecule of interest on the other face of the cyclopeptide[.]” Claim 69 has also been amended to recite the step of “substituting some or all of the orthogonal protective groups with a protected precursor of an oxyamine function or a protected masked precursor of an aldehyde function which is suitable for grafting a molecule of interest via an oxime bond.” Claim 69 has also been amended to recite “one molecule of therapeutic diagnostic interest is grafted onto the upper or lower face of the framework via an oxime bond.” Claim 81 has been amended such that it no longer recites “the amine and hydroxyl functions of which are protected, and oxidation of which releases an aldehyde group.” These amendments to the claims are consistent with the Examiner’s helpful guidance. The Applicants respectfully request withdrawal of the rejections of Claims 61, 62, 64-78, 80-86 and 88-92 under 35 USC §112, second paragraph.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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